

REMARKS

Claims 1-17 are pending in the application.

Claims 1-17 are rejected.

Claims 11-13 objected to.

Claims 1, 2 and 4-8 are rejected under 35 U.S.C. 102(b).

Claim 3 is rejected under 35 U.S.C. 103(a).

Claims 9-16 are rejected under 35 U.S.C. 103(a).

Claim 17 is rejected under 35 U.S.C. 103(a).

Applicant requests reconsideration and allowance of the claims in light of the following remarks.

Claim Objections

As suggested, misnumbered claim 11 (second instance) is renumbered as 12, and misnumbered claim 12 is renumbered as 13. Thus, the claim objections are now overcome.

Claim Rejections – 35 USC § 102

Claims 1, 2, and 4-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Liang (US Patent 6,245,148 B1)

The applicant respectfully traverses the rejections.

Claim 1 recites a photoresist-blocking valve installed at the drain line, the photoresist-blocking valve structured to be opened to release air, or closed to prevent a photoresist loss according to signals detected by the lower photoresist sensor and the upper photoresist sensor. According to one embodiment of the present invention, therefore, the lower photoresist sensor 680 signals the photoresist-blocking valve 740 to be opened to release air that is trapped in the system (page 9, line 8). As the air is displaced, and concomitantly released via the photoresist-blocking valve 740, the photoresist level increases to the upper photoresist sensor 700. When this upper sensor 700 is activated it sends a signal to close the photoresist-blocking valve 740 because, at this time, there is no more air to release (purge), and the photoresist-blocking valve 740 should be closed (page 9, lines 10) to prevent the undesirable escape of photoresist. Note that the photoresist-blocking valve 740 (and similar for the photoresist-blocking valve 600) is between the air release region (output of photoresist-blocking valve 740) and the trap tank 660. Also note that the photoresist-blocking valve 740 does not control the flow of the photoresist supply from the bottle 420.

Liang does not teach a lower sensor and an upper sensor that control a release of air. Liang rather teaches level sensors Sb1, Sb2, and Sb3, only of which Sb2 produces a signal to open a valve V3 that controls *the flow of liquid* (column 3, line 64 – column 4, line 18), as opposed to an air release. Sb1 and Sb3 only operate an alarm to warn operators to handle an extreme level situation (column 4, lines 4 and 13). The valve V3 is between bottle 11 and buffer tank 30 (Figure 2). In other words, the use of valve V3, the only valve taught by Liang that is controlled by level sensors, is *only to control the supply of liquid* from the (source) bottle 11 to the buffer tank 30. *Valve V3, and thus level sensors, does not control any air release.* An air release is not in this branch of lines. Therefore Claim 1 is not anticipated by Liang, and claim 1 is in condition for allowance.

Claims 4-8 generally recite a lower or upper photoresist sensor that affects the status (open or closed) of a photoresist-blocking valve. The apparatus of Liang is not capable of opening and closing the photoresist blocking valve V4 in the claimed manner based on the claimed sensor readings. Liang teaches *only that sensor Sb2 affects valve V3, which is not a photoresist-blocking valve* as in the claims 4-8, which recite that a photoresist-blocking valve is installed in the drain line. V3 is in a supply line, not a drain line, as explained above. Therefore, Claims 4-8 are not anticipated by Liang, and claims 4-8 are in condition for allowance.

In addition, claims 2 and 4-8 are rejected under 35 U.S.C. 102 as being anticipated by Liang, as applied to claim 1. The applicant asserts that claims 2 and 4-8, which recite additional novel and non-obvious features of base claim 1, are also in condition for allowance based on the arguments above for claim 1.

Claim Rejections – 35 USC § 103

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liang as applied to claim 1 above, and further in view of U.S. Patent No. 5,383,574 to Raphael (“Raphael”).

The applicant respectfully traverses this rejection.

As explained above regarding the 35 USC section 102 rejection of claim 1, Liang as applied to claim 1 does not teach or disclose all of the limitations of claim 1. For example, Liang does not disclose opening and closing a photoresist blocking valve installed in a drain line to be opened to release air or closed to prevent a photoresist loss according to signals detected by the lower photoresist sensor and the upper photoresist sensor, as recited in claim

1. Therefore, Liang does not disclose all of the limitations of claim 3, which depends from allowable claim 1. Therefore, the rejection does not present a prima facie case of obviousness. Accordingly, claim 3 is in condition for allowance.

Claims 9-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi (US 2002/0050247) in view of Liang. The applicant respectfully traverses the rejections.

It is asserted that Liang discloses that it is known to use both lower and upper photoresist sensors (items Sb1 and Sb3) for controlling operations of the system. Liang discloses (column 3, lines 1-21) that adding an upper and lower sensor allows for more control of the volume of the material in the tank, such as an alert warning of excessive material. Liang's sensors cause an alert, as opposed to control of, say, a solenoid to open or close a valve. One of Liang's sensors, SB2, sends signals to a valve that only controls fluid flow rate, not air release. However, claim 9 recites a first photoresist-blocking valve installed at the first drain line, the first photoresist-blocking valve structured to be opened to release air or being closed to prevent photoresist loss according to signals detected by the first lower photoresist sensor and the first upper photoresist sensor. It is not obvious, in light of Liang's teachings, to apply sensor signals to a photoresist-blocking valve to be opened to release air, or being closed to prevent photoresist loss, as explained above regarding the 35 USC section 102 rejection of claim 1.

Sekiguchi, as pointed out, does not disclose that each trap has lower and upper photoresist sensors. Therefore claim 9 is not obvious over Sekiguchi in view of Liang, and claim 9 is in condition for allowance.

Claims 10-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi, as applied to claim 9, and Liang. The applicant asserts that claims 10-16, which recite additional novel and non-obvious features of their base claim, are also in condition for allowance.


Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiguchi and Liang as applied to claim 9 above, and further in view of Raphael (US Patent 5,383,574). The applicant respectfully traverses this rejection. The applicant asserts that claim 17, which recites additional novel and non-obvious features of base claim 9, is also in condition for allowance.

For the foregoing reasons, reconsideration and allowance of claims 1-17 of the application as amended is solicited. The Examiner is encouraged to telephone the

undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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Limited Recognition Under 37 CFR § 10.9(b)

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